

Appl. 10/077,391
Amdt. dated 09 November 2004
Reply to Office Actions of 28 May and 28 October 2004

In the Claims:

No amendment is made to the claims by this response. The pending claims considered at the interview on May 21, 2004 are as follows:

1. (PREVIOUSLY PRESENTED) A method of continuously casting steel strip comprising:

(a) providing a chilled casting surface with a texture formed by a random distribution of discrete projections;

(b) contracting the chilled casting surface with a casting pool of molten steel having a manganese content of at least 0.55% by weight and a silicon content in the range 0.1 to 0.35% by weight to cause solidification of steel from the casting pool onto the casting surface as a solidified shell; and

(c) separating the solid shell from the casting surface in a solidified strip.

2. (ORIGINAL) A method as claimed in claim 1, wherein the steel has a carbon content of less than 0.07% by weight.

3. (ORIGINAL) A method as claimed in claim 1, wherein at least some of said discrete projections have an average surface distribution of between 5 and 200 peaks per mm².

4. (ORIGINAL) A method as claimed in claim 1, wherein said discrete projections have an average height of at least 10 microns.

5. (ORIGINAL) A method as claimed in claim 4, wherein the average height of the discrete projections is at least 20 microns.

6. (ORIGINAL) A method as claimed in claim 1, comprising the additional step of the strip moving away from the casting pool at a speed of at least 60 meters per minute.

7. (ORIGINAL) A method as claimed in claim 6, wherein the strip is moved away from the casting pool at a speed in the range 75 meters per minute.

8. (ORIGINAL) A method as claimed in claim 1, wherein the manganese content of the steel is in the range 0.55 to 0.9% by weight.

9. (PREVIOUSLY PRESENTED) A method of continuously casting steel strip comprising:

(a) forming a pair of casting rolls having casting surface being textured by a random distribution of discrete projections

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(b) introducing molten steel having a manganese content of at least 0.55% by weight and a silicon content in the range of 0.1 to 0.35% by weight into a nip between said pair of casting rolls that are chilled to form a casting pool of the molten steel supported on the casting surfaces of the rolls immediately above the nip; and

(c) rotating the rolls to cause solidified steel shells forming on the casting surfaces in contact with the casting pool to be brought together into a solidified steel strip delivered downwardly from the nip.

10. (ORIGINAL) A method as claimed in claim 9, wherein said discrete projections have an average surface distribution of between 5 and 200 peaks per mm² and an average height of at least 10 microns.

11. (PREVIOUSLY PRESENTED) A method as claimed in claim 9, wherein each casting surface is defined by a grit blasted substrate covered by a protective coating such that the casting surface shows the random distribution texture of discrete projections.

12. (ORIGINAL) A method as claimed in claim 11, wherein the protective coating is an electroplated metal coating.

13. (ORIGINAL) A method as claimed in claim 12, wherein the substrate is copper and the plated coating is of chromium.

14. (ORIGINAL) A method as claimed in claim 9, wherein each casting surface is a grit blasted surface.

15. (ORIGINAL) A method as claimed in claim 14, wherein the grit blasted surface is formed of nickel.

16. (PREVIOUSLY PRESENTED) A method as claimed in claim 9, wherein each casting surface is defined by a coating deposited onto a substrate to produce the random distribution texture of that surface.

17. (ORIGINAL) A method as claimed in claim 16, wherein the coating is formed by chemical deposition.

18. (ORIGINAL) A method as claimed in claim 16, wherein the coating is formed by electrodeposition.

19. (ORIGINAL) A method as claimed in claim 16, wherein the coating is formed of a material which has a low affinity for the oxidation products in the molten steel

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such that the molten steel has greater affinity for the coating material and wets the coating in preference to said oxidation products.

20. (ORIGINAL) A method as claimed in claim 16, wherein the coating is formed of an alloy of nickel, chromium and molybdenum.

21. (ORIGINAL) A method as claimed in claim 16, wherein the coating is formed of an alloy of nickel, molybdenum and cobalt.

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